



# SPEC CPU®2026 Integer Speed Result

Copyright 2026 Standard Performance Evaluation Corporation

## Supermicro

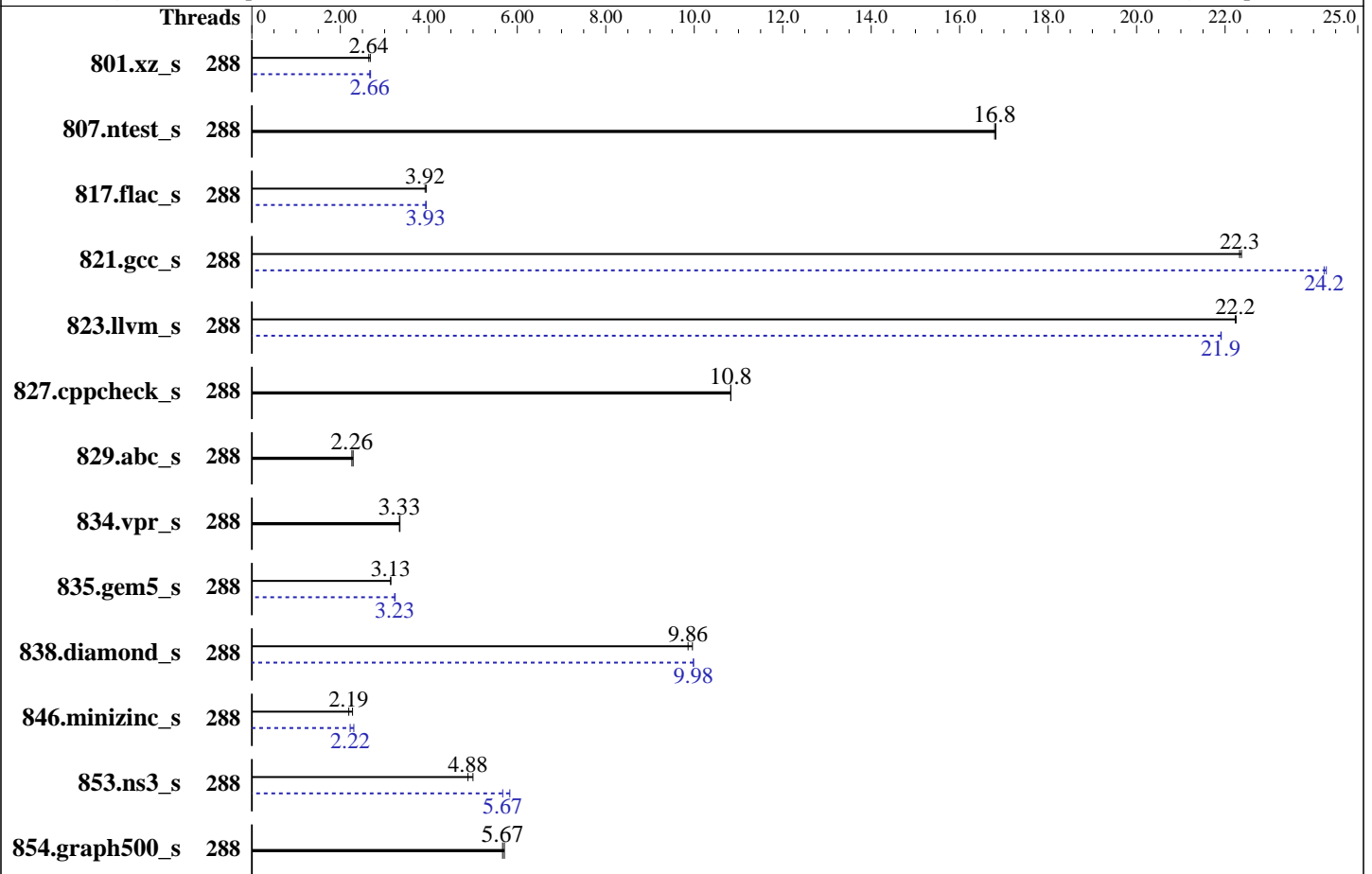
SuperServer SYS-112HA-TN  
(X14SBH-AP , Intel Xeon 6990E+)

SPECspeed®2026\_int\_base = 6.00

SPECspeed®2026\_int\_peak = 6.14

CPU2026 License: 001176  
Test Sponsor: Supermicro  
Tested by: Supermicro

Test Date: May-2026  
Hardware Availability: Jun-2026  
Software Availability: Apr-2026



### Hardware

CPU Name: Intel Xeon 6990E+  
Max MHz: 3200  
Nominal: 2200  
Enabled: 288 cores, 1 chip  
Orderable: 1 chip  
Cache L1: 64 KB I + 32 KB D on chip per core  
L2: 288 MB I+D on chip per chip, 4 MB shared / 4 cores  
L3: 576 MB I+D on chip per chip  
Other: None  
Memory: 1152 GB (12 x 96 GB 2Rx4 PC5-8000B-R)  
Storage: 1 x 480 GB NVMe SSD  
Cooling: Air  
Other: None

### Software

OS: Red Hat Enterprise Linux 9.7  
Kernel 5.14.0-611.5.1.el9\_7.x86\_64  
Compiler: C/C++: Version 2026.0 of Intel oneAPI DPC++/C++ Compiler for Linux;  
Fortran: Version 2026.0 of Intel Fortran Compiler for Linux  
Compiler Category: Vendor  
Firmware: Version 1.5b released May-2026  
File System: xfs  
System State: Run level 3 (multi-user)  
Base Pointers: 64-bit  
Peak Pointers: 64-bit  
Other: jemalloc memory allocator V5.3.0  
Power Management: BIOS and OS set to prefer performance at the cost of additional power usage.



# SPEC CPU®2026 Integer Speed Result

Copyright 2026 Standard Performance Evaluation Corporation

## Supermicro

SuperServer SYS-112HA-TN  
(X14SBH-AP , Intel Xeon 6990E+)

SPECspeed®2026\_int\_base = 6.00

SPECspeed®2026\_int\_peak = 6.14

CPU2026 License: 001176  
Test Sponsor: Supermicro  
Tested by: Supermicro

Test Date: May-2026  
Hardware Availability: Jun-2026  
Software Availability: Apr-2026

## Results Table

Benchmark	Base						Peak							
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
801.xz_s	288	<b><u>224</u></b>	<b><u>2.64</u></b>	221	2.68			288	220	2.68	<b><u>222</u></b>	<b><u>2.66</u></b>		
807.ntest_s	288	<b><u>67.9</u></b>	<b><u>16.8</u></b>	67.8	16.8			288	<b><u>67.9</u></b>	<b><u>16.8</u></b>	67.8	16.8		
817.flac_s	288	<b><u>444</u></b>	<b><u>3.92</u></b>	440	3.94			288	441	3.94	<b><u>442</u></b>	<b><u>3.93</u></b>		
821.gcc_s	288	92.5	22.4	<b><u>92.7</u></b>	<b><u>22.3</u></b>			288	85.2	24.3	<b><u>85.4</u></b>	<b><u>24.2</u></b>		
823.llvm_s	288	63.4	22.2	<b><u>63.5</u></b>	<b><u>22.2</u></b>			288	64.4	21.9	<b><u>64.4</u></b>	<b><u>21.9</u></b>		
827.cppcheck_s	288	<b><u>103</u></b>	<b><u>10.8</u></b>	103	10.8			288	<b><u>103</u></b>	<b><u>10.8</u></b>	103	10.8		
829.abc_s	288	363	2.29	<b><u>368</u></b>	<b><u>2.26</u></b>			288	363	2.29	<b><u>368</u></b>	<b><u>2.26</u></b>		
834.vpr_s	288	<b><u>286</u></b>	<b><u>3.33</u></b>	285	3.35			288	<b><u>286</u></b>	<b><u>3.33</u></b>	285	3.35		
835.gem5_s	288	<b><u>363</u></b>	<b><u>3.13</u></b>	363	3.14			288	352	3.24	<b><u>353</u></b>	<b><u>3.23</u></b>		
838.diamond_s	288	<b><u>102</u></b>	<b><u>9.86</u></b>	101	9.96			288	<b><u>100</u></b>	<b><u>9.98</u></b>	100	9.98		
846.minizinc_s	288	<b><u>306</u></b>	<b><u>2.19</u></b>	294	2.28			288	291	2.30	<b><u>302</u></b>	<b><u>2.22</u></b>		
853.ns3_s	288	231	5.00	<b><u>236</u></b>	<b><u>4.88</u></b>			288	198	5.83	<b><u>203</u></b>	<b><u>5.67</u></b>		
854.graph500_s	288	<b><u>108</u></b>	<b><u>5.67</u></b>	107	5.71			288	<b><u>108</u></b>	<b><u>5.67</u></b>	107	5.71		

SPECspeed®2026\_int\_base = 6.00

SPECspeed®2026\_int\_peak = 6.14

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

## Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"

## Environment Variables Notes

Environment variables set by runcpu before the start of the run:  
LD\_LIBRARY\_PATH = "/home/cpu2026/lib"  
MALLOCONF = "retain:true"  
OMP\_STACKSIZE = "192M"

## General Notes

Binaries compiled on a system with 2x Intel Xeon Platinum 8280M CPU + 384GB RAM memory using CentOS Stream 9.

Transparent Huge Pages enabled by default

Prior to runcpu invocation

Filesystem page cache synced and cleared with:

```
sync; echo 3> /proc/sys/vm/drop_caches
```

NA: The test sponsor attests, as of date of publication, that CVE-2017-5754 (Meltdown) is mitigated in the system as tested and documented.

Yes: The test sponsor attests, as of date of publication, that CVE-2017-5753 (Spectre variant 1) is mitigated in the system as tested and documented.

(Continued on next page)



# SPEC CPU®2026 Integer Speed Result

Copyright 2026 Standard Performance Evaluation Corporation

## Supermicro

SuperServer SYS-112HA-TN  
(X14SBH-AP, Intel Xeon 6990E+)

SPECspeed®2026\_int\_base = 6.00

SPECspeed®2026\_int\_peak = 6.14

**CPU2026 License:** 001176  
**Test Sponsor:** Supermicro  
**Tested by:** Supermicro

**Test Date:** May-2026  
**Hardware Availability:** Jun-2026  
**Software Availability:** Apr-2026

### General Notes (Continued)

Yes: The test sponsor attests, as of date of publication, that CVE-2017-5715 (Spectre variant 2) is mitigated in the system as tested and documented.

jemalloc, a general purpose malloc implementation  
built with the CentOS Stream 9, and the system compiler gcc 11.5.0  
sources available from jemalloc.net or <https://github.com/jemalloc/jemalloc/releases>

### Platform Notes

BIOS settings:  
Workload Profile = HPC  
KTI Prefetch = Enable  
Stale AtoS = Disable  
LLC Dead Line Alloc = Disable

Sysinfo program /home/cpu2026/bin/sysinfo  
Rev: 779ab21020787073335a329f3a45e2cd  
running on Sat May 16 05:37:12 2026

SUT (System Under Test) info as seen by some common utilities.

-----  
Table of contents  
-----

1. uname -srvm
2. w
3. Username
4. ulimit -a
5. sysinfo process ancestry
6. /proc/cpuinfo
7. lscpu
8. numactl --hardware
9. /proc/meminfo
10. who -r
11. Systemd service manager version: systemd 252 (252-55.e19)
12. Services, from systemctl list-unit-files
13. Linux kernel boot-time arguments, from /proc/cmdline
14. cpupower frequency-info
15. tuned-adm active
16. sysctl
17. /sys/kernel/mm/transparent\_hugepage
18. /sys/kernel/mm/transparent\_hugepage/khugepaged
19. OS release
20. Disk information
21. /sys/devices/virtual/dmi/id
22. dmidecode
23. BIOS

(Continued on next page)



# SPEC CPU®2026 Integer Speed Result

Copyright 2026 Standard Performance Evaluation Corporation

## Supermicro

SuperServer SYS-112HA-TN  
(X14SBH-AP, Intel Xeon 6990E+)

SPECspeed®2026\_int\_base = 6.00

SPECspeed®2026\_int\_peak = 6.14

**CPU2026 License:** 001176  
**Test Sponsor:** Supermicro  
**Tested by:** Supermicro

**Test Date:** May-2026  
**Hardware Availability:** Jun-2026  
**Software Availability:** Apr-2026

### Platform Notes (Continued)

1. `uname -srv`  
Linux 5.14.0-611.5.1.el9\_7.x86\_64 #1 SMP PREEMPT\_DYNAMIC Fri Oct 17 14:16:35 EDT 2025 x86\_64

2. `w`  
05:37:12 up 13:40, 1 user, load average: 31.94, 182.65, 245.93  
USER TTY LOGIN@ IDLE JCPU PCPU WHAT  
root tty1 Fri16 13:25m 1.40s 0.00s -bash

3. Username  
From environment variable \$USER: root

4. `ulimit -a`  
real-time non-blocking time (microseconds, -R) unlimited  
core file size (blocks, -c) 0  
data seg size (kbytes, -d) unlimited  
scheduling priority (-e) 0  
file size (blocks, -f) unlimited  
pending signals (-i) 4639996  
max locked memory (kbytes, -l) 64  
max memory size (kbytes, -m) unlimited  
open files (-n) 1024  
pipe size (512 bytes, -p) 8  
POSIX message queues (bytes, -q) 819200  
real-time priority (-r) 0  
stack size (kbytes, -s) unlimited  
cpu time (seconds, -t) unlimited  
max user processes (-u) 4639996  
virtual memory (kbytes, -v) unlimited  
file locks (-x) unlimited

5. `sysinfo process ancestry`  
/usr/lib/systemd/systemd rhgb --switched-root --system --deserialize 31  
login -- root  
-bash  
-bash  
runcpu --nobuild --reportable --action validate --define default-platform-flags -c  
ic2026.0-clearwaterforest-cpu2026-1.0.1-speed-20260429.cfg --threads 288 --define cores=288 --tune  
base,peak -o all --define intspeeraffinity --define smt-on --define drop\_caches intspeer  
runcpu --nobuild --reportable --action validate --define default-platform-flags --configfile  
ic2026.0-clearwaterforest-cpu2026-1.0.1-speed-20260429.cfg --threads 288 --define cores=288 --tune

(Continued on next page)



# SPEC CPU®2026 Integer Speed Result

Copyright 2026 Standard Performance Evaluation Corporation

## Supermicro

SuperServer SYS-112HA-TN  
(X14SBH-AP, Intel Xeon 6990E+)

SPECspeed®2026\_int\_base = 6.00

SPECspeed®2026\_int\_peak = 6.14

**CPU2026 License:** 001176  
**Test Sponsor:** Supermicro  
**Tested by:** Supermicro

**Test Date:** May-2026  
**Hardware Availability:** Jun-2026  
**Software Availability:** Apr-2026

### Platform Notes (Continued)

```
base,peak --output_format all --define intspeakaffinity --define smt-on --define drop_caches --nopower
--runmode speed --tune base:peak --size refspeak intspeak --nopreenv --note-preenv --logfile
$SPEC/tmp/CPU2026.003/templogs/preenv.intspeak.003.0.log --lognum 003.0 --from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /home/cpu2026
```

```
-----
6. /proc/cpuinfo
model name      : Intel(R) Xeon(R) 6990E+
vendor_id      : GenuineIntel
cpu family     : 6
model          : 221
stepping       : 1
microcode      : 0x1000120
bugs           : spectre_v1 spectre_v2 spec_store_bypass swaps bhi spectre_v2_user
cpu cores      : 288
siblings       : 288
1 physical ids (chips)
288 processors (hardware threads)
physical id 0: core ids 0-95,128-223,256-351
physical id 0: apicids
0, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48, 50, 52, 54, 56, 58, 60, 62, 64, 66, 68, 70, 72
, 74, 76, 78, 80, 82, 84, 86, 88, 90, 92, 94, 96, 98, 100, 102, 104, 106, 108, 110, 112, 114, 116, 118, 120, 122, 124, 126, 128, 130, 1
32, 134, 136, 138, 140, 142, 144, 146, 148, 150, 152, 154, 156, 158, 160, 162, 164, 166, 168, 170, 172, 174, 176, 178, 180, 182, 18
4, 186, 188, 190, 256, 258, 260, 262, 264, 266, 268, 270, 272, 274, 276, 278, 280, 282, 284, 286, 288, 290, 292, 294, 296, 298, 300
, 302, 304, 306, 308, 310, 312, 314, 316, 318, 320, 322, 324, 326, 328, 330, 332, 334, 336, 338, 340, 342, 344, 346, 348, 350, 352,
354, 356, 358, 360, 362, 364, 366, 368, 370, 372, 374, 376, 378, 380, 382, 384, 386, 388, 390, 392, 394, 396, 398, 400, 402, 404, 4
06, 408, 410, 412, 414, 416, 418, 420, 422, 424, 426, 428, 430, 432, 434, 436, 438, 440, 442, 444, 446, 512, 514, 516, 518, 520, 52
2, 524, 526, 528, 530, 532, 534, 536, 538, 540, 542, 544, 546, 548, 550, 552, 554, 556, 558, 560, 562, 564, 566, 568, 570, 572, 574
, 576, 578, 580, 582, 584, 586, 588, 590, 592, 594, 596, 598, 600, 602, 604, 606, 608, 610, 612, 614, 616, 618, 620, 622, 624, 626,
628, 630, 632, 634, 636, 638, 640, 642, 644, 646, 648, 650, 652, 654, 656, 658, 660, 662, 664, 666, 668, 670, 672, 674, 676, 678, 6
80, 682, 684, 686, 688, 690, 692, 694, 696, 698, 700, 702
```

Caution: /proc/cpuinfo data regarding chips, cores, and threads is not necessarily reliable, especially for virtualized systems. Use the above data carefully.

### 7. lscpu

From lscpu from util-linux 2.37.4:

```
Architecture:      x86_64
CPU op-mode(s):    32-bit, 64-bit
Address sizes:      52 bits physical, 48 bits virtual
Byte Order:         Little Endian
CPU(s):             288
On-line CPU(s) list: 0-287
Vendor ID:          GenuineIntel
BIOS Vendor ID:    Intel(R) Corporation
```

(Continued on next page)



# SPEC CPU®2026 Integer Speed Result

Copyright 2026 Standard Performance Evaluation Corporation

## Supermicro

SuperServer SYS-112HA-TN  
(X14SBH-AP, Intel Xeon 6990E+)

SPECspeed®2026\_int\_base = 6.00

SPECspeed®2026\_int\_peak = 6.14

**CPU2026 License:** 001176  
**Test Sponsor:** Supermicro  
**Tested by:** Supermicro

**Test Date:** May-2026  
**Hardware Availability:** Jun-2026  
**Software Availability:** Apr-2026

### Platform Notes (Continued)

```

Model name: Intel(R) Xeon(R) 6990E+
BIOS Model name: Intel(R) Xeon(R) 6990E+
CPU family: 6
Model: 221
Thread(s) per core: 1
Core(s) per socket: 288
Socket(s): 1
Stepping: 1
BogoMIPS: 4400.00
Flags: fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat
pse36 clflush dts acpi mmx fxsr sse sse2 ss ht tm pbe syscall nx
pdpe1gb rdtscp lm constant_tsc art arch_perfmon bts rep_good nopl
xtopology nonstop_tsc cpuid aperfmperf tsc_known_freq pni
pclmulqdq dtes64 monitor ds_cpl vmx smx est tm2 ssse3 sdbg fma
cx16 xtpr pdcm pcid dca sse4_1 sse4_2 x2apic movbe popcnt
tsc_deadline_timer aes xsave avx f16c rdrand lahf_lm abm
3dnowprefetch cpuid_fault epb cat_l3 cat_l2 cdp_l3 intel_ppin
cdp_l2 ssbd mba ibrs ibpb stibp ibrs_enhanced tpr_shadow
flexpriority ept vpid ept_ad fsgsbase tsc_adjust bmi1 avx2 smep
bmi2 erms invpcid cqm rdt_a rdseed adx smap clflushopt clwb
intel_pt sha_ni xsaveopt xsavec xgetbv1 xsaves cqm_llc
cqm_occup_llc cqm_mbm_total cqm_mbm_local split_lock_detect
user_shstk avx_vnni lam wbnoinvd dtherm ida arat pln pts vmmi umip
pku ospke waitpkg gfni vaes vpclmulqdq tme rdpid bus_lock_detect
cldemote movdiri movdir64b enqcmd fsrm md_clear serialize pconfig
arch_lbr ibt flush_lld arch_capabilities

Virtualization: VT-x
L1d cache: 9 MiB (288 instances)
L1i cache: 18 MiB (288 instances)
L2 cache: 288 MiB (72 instances)
L3 cache: 576 MiB (1 instance)
NUMA node(s): 3
NUMA node0 CPU(s): 0-95
NUMA node1 CPU(s): 96-191
NUMA node2 CPU(s): 192-287
Vulnerability Gather data sampling: Not affected
Vulnerability Indirect target selection: Not affected
Vulnerability Itlb multihit: Not affected
Vulnerability L1tf: Not affected
Vulnerability Mds: Not affected
Vulnerability Meltdown: Not affected
Vulnerability Mmio stale data: Not affected
Vulnerability Reg file data sampling: Not affected
Vulnerability Retbleed: Not affected
Vulnerability Spec rstack overflow: Not affected
Vulnerability Spec store bypass: Mitigation; Speculative Store Bypass disabled via prctl
Vulnerability Spectre v1: Mitigation; usercopy/swaps barriers and __user pointer

```

(Continued on next page)



# SPEC CPU®2026 Integer Speed Result

Copyright 2026 Standard Performance Evaluation Corporation

## Supermicro

SuperServer SYS-112HA-TN  
(X14SBH-AP , Intel Xeon 6990E+)

SPECspeed®2026\_int\_base = 6.00

SPECspeed®2026\_int\_peak = 6.14

**CPU2026 License:** 001176  
**Test Sponsor:** Supermicro  
**Tested by:** Supermicro

**Test Date:** May-2026  
**Hardware Availability:** Jun-2026  
**Software Availability:** Apr-2026

### Platform Notes (Continued)

```

sanitization
Vulnerability Spectre v2:      Mitigation; Enhanced / Automatic IBRS; IBPB conditional;
                                PBRSE-eIBRS Not affected; BHI BHI_DIS_S
Vulnerability Srbds:          Not affected
Vulnerability Tsa:            Not affected
Vulnerability Tsx async abort: Not affected

```

From lscpu --cache:

NAME	ONE-SIZE	ALL-SIZE	WAYS	TYPE	LEVEL	SETS	PHY-LINE	COHERENCY-SIZE
L1d	32K	9M	8	Data	1	64	1	64
L1i	64K	18M	8	Instruction	1	128	1	64
L2	4M	288M	16	Unified	2	4096	1	64
L3	576M	576M	16	Unified	3	589824	1	64

8. numactl --hardware

NOTE: a numactl 'node' might or might not correspond to a physical chip.

```

available: 3 nodes (0-2)
node 0 cpus: 0-95
node 0 size: 385994 MB
node 0 free: 382079 MB
node 1 cpus: 96-191
node 1 size: 387047 MB
node 1 free: 383362 MB
node 2 cpus: 192-287
node 2 size: 387021 MB
node 2 free: 383213 MB
node distances:
node    0    1    2
 0:   10   15   17
 1:   15   10   15
 2:   17   15   10

```

9. /proc/meminfo

MemTotal: 1187904808 kB

10. who -r

run-level 3 May 15 15:56

11. Systemd service manager version: systemd 252 (252-55.e19)

```

Default Target Status
multi-user      running

```

(Continued on next page)



# SPEC CPU®2026 Integer Speed Result

Copyright 2026 Standard Performance Evaluation Corporation

## Supermicro

SuperServer SYS-112HA-TN  
(X14SBH-AP , Intel Xeon 6990E+)

SPECspeed®2026\_int\_base = 6.00

SPECspeed®2026\_int\_peak = 6.14

**CPU2026 License:** 001176  
**Test Sponsor:** Supermicro  
**Tested by:** Supermicro

**Test Date:** May-2026  
**Hardware Availability:** Jun-2026  
**Software Availability:** Apr-2026

### Platform Notes (Continued)

#### 12. Services, from systemctl list-unit-files

STATE	UNIT FILES
enabled	ModemManager NetworkManager NetworkManager-dispatcher NetworkManager-wait-online accounts-daemon atd auditd avahi-daemon bluetooth chronyd crond cups dbus-broker firewalld gdm getty@ insights-client-boot irqbalance iscsi-onboot iscsi-starter kdump libstoragemgmt low-memory-monitor lvm2-monitor mcelog mdmonitor microcode multipathd nis-domainname nvme-fc-boot-connections ostree-remount qemu-guest-agent rhsmcertd rsyslog rtkit-daemon selinux-autorelabel-mark smartd sshd sssd switcheroo-control systemd-boot-update systemd-network-generator systemd-pstore tuned udisks2 upower vgauthd vmtoolsd
enabled-runtime	systemd-remount-fs
disabled	arp-ethers blk-availability brltty canberra-system-bootup canberra-system-shutdown canberra-system-shutdown-reboot chrony-wait chronyd-restricted cni-dhcp console-getty cpupower cups-browsed dbus-daemon debug-shell dnf-system-upgrade dnsmasq iprdump iprinit iprupdate iscsi-init iscsid iscsiui0 kpatch kvm_stat ledmon lvm-devices-import man-db-restart-cache-update netavark-dhcp-proxy netavark-firewalld-reload nftables nvmmf-autoconnect ostree-readonly-sysroot-migration ostree-state-overlay@ podman podman-auto-update podman-clean-transient podman-kube@ podman-restart psacct ras-mc-ctl rasdaemon rdisc rhcd rhsm rhsm-facts rpmdb-rebuild selinux-check-proper-disable serial-getty@ speech-dispatcherd sshd-keygen@ systemd-boot-check-no-failures systemd-sysext tuned-ppd wpa_supplicant
indirect	iscsi spice-vdagentd sssd-autofs sssd-kcm sssd-nss sssd-pac sssd-pam sssd-ssh sssd-sudo systemd-sysupdate systemd-sysupdate-reboot

-----

#### 13. Linux kernel boot-time arguments, from /proc/cmdline

```

BOOT_IMAGE=(hd0,gpt2)/vmlinuz-5.14.0-611.5.1.el9_7.x86_64
root=/dev/mapper/rhel_135--180--133-root
ro
resume=/dev/mapper/rhel_135--180--133-swap
rd.lvm.lv=rhel_135-180-133/root
rd.lvm.lv=rhel_135-180-133/swap
rhgb
quiet
crashkernel=1G-2G:192M,2G-64G:256M,64G-:512M

```

-----

#### 14. cpupower frequency-info

```

analyzing CPU 15:
Unable to determine current policy
boost state support:
Supported: yes
Active: yes

```

-----

#### 15. tuned-adm active

```

Current active profile: throughput-performance

```

(Continued on next page)



# SPEC CPU®2026 Integer Speed Result

Copyright 2026 Standard Performance Evaluation Corporation

## Supermicro

SuperServer SYS-112HA-TN  
(X14SBH-AP , Intel Xeon 6990E+)

SPECspeed®2026\_int\_base = 6.00

SPECspeed®2026\_int\_peak = 6.14

**CPU2026 License:** 001176  
**Test Sponsor:** Supermicro  
**Tested by:** Supermicro

**Test Date:** May-2026  
**Hardware Availability:** Jun-2026  
**Software Availability:** Apr-2026

### Platform Notes (Continued)

-----  
16. sysctl

kernel.numa_balancing	1
kernel.randomize_va_space	2
vm.compaction_proactiveness	20
vm.dirty_background_bytes	0
vm.dirty_background_ratio	10
vm.dirty_bytes	0
vm.dirty_expire_centisecs	3000
vm.dirty_ratio	40
vm.dirty_writeback_centisecs	500
vm.dirtytime_expire_seconds	43200
vm.extfrag_threshold	500
vm.min_unmapped_ratio	1
vm.nr_hugepages	0
vm.nr_hugepages_mempolicy	0
vm.nr_overcommit_hugepages	0
vm.swappiness	10
vm.watermark_boost_factor	15000
vm.watermark_scale_factor	10
vm.zone_reclaim_mode	0

-----  
17. /sys/kernel/mm/transparent\_hugepage

defrag	always	defer	defer+madvise	[madvise]	never
enabled	[always]	madvise	never		
hpage_pmd_size	2097152				
shmem_enabled	always	within_size	advise	[never]	deny force

-----  
18. /sys/kernel/mm/transparent\_hugepage/khugepaged

alloc_sleep_millisecs	60000
defrag	1
max_ptes_none	511
max_ptes_shared	256
max_ptes_swap	64
pages_to_scan	4096
scan_sleep_millisecs	10000

-----  
19. OS release

From	/etc/*-release	/etc/*-version	
os-release	Red Hat Enterprise Linux	9.7 (Plow)	
redhat-release	Red Hat Enterprise Linux	release 9.7 (Plow)	
system-release	Red Hat Enterprise Linux	release 9.7 (Plow)	

-----  
(Continued on next page)



# SPEC CPU®2026 Integer Speed Result

Copyright 2026 Standard Performance Evaluation Corporation

## Supermicro

SuperServer SYS-112HA-TN  
(X14SBH-AP, Intel Xeon 6990E+)

SPECspeed®2026\_int\_base = 6.00

SPECspeed®2026\_int\_peak = 6.14

**CPU2026 License:** 001176  
**Test Sponsor:** Supermicro  
**Tested by:** Supermicro

**Test Date:** May-2026  
**Hardware Availability:** Jun-2026  
**Software Availability:** Apr-2026

### Platform Notes (Continued)

#### 20. Disk information

SPEC is set to: /home/cpu2026

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/mapper/rhel_135--180--133-home	xf	372G	37G	336G	10%	/home

#### 21. /sys/devices/virtual/dmi/id

Vendor: Supermicro  
Product: Super Server  
Product Family: Family  
Serial: 0123456789

#### 22. dmidecode

Additional information from dmidecode 3.6 follows. WARNING: Use caution when you interpret this section. The 'dmidecode' program reads system data which is "intended to allow hardware to be accurately determined", but the intent may not be met, as there are frequent changes to hardware, firmware, and the "DMTF SMBIOS" standard.

Memory:  
12x SK Hynix HMC4M4AMBRB970N 96 GB 2 rank 8000

#### 23. BIOS

(This section combines info from /sys/devices and dmidecode.)

BIOS Vendor: American Megatrends International, LLC.  
BIOS Version: 1.5b  
BIOS Date: 05/04/2026  
BIOS Revision: 5.35

### Compiler Version Notes

C | 854.graph500\_s(base, peak)

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64,  
Version 2026.0.0 Build 20260331  
Copyright (C) 1985-2026 Intel Corporation. All rights reserved.

C++ | 807.ntest\_s(base, peak) 827.cppcheck\_s(base, peak) 853.ns3\_s(base, peak)

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64,  
Version 2026.0.0 Build 20260331

(Continued on next page)



# SPEC CPU®2026 Integer Speed Result

Copyright 2026 Standard Performance Evaluation Corporation

## Supermicro

SuperServer SYS-112HA-TN  
(X14SBH-AP, Intel Xeon 6990E+)

SPECspeed®2026\_int\_base = 6.00

SPECspeed®2026\_int\_peak = 6.14

**CPU2026 License:** 001176  
**Test Sponsor:** Supermicro  
**Tested by:** Supermicro

**Test Date:** May-2026  
**Hardware Availability:** Jun-2026  
**Software Availability:** Apr-2026

## Compiler Version Notes (Continued)

Copyright (C) 1985-2026 Intel Corporation. All rights reserved.

```

=====
C++, C | 801.xz_s(base, peak) 817.flac_s(base, peak) 821.gcc_s(base, peak)
      | 823.llvm_s(base, peak) 829.abc_s(base, peak) 834.vpr_s(base, peak)
      | 835.gem5_s(base, peak) 838.diamond_s(base, peak)
      | 846.minizinc_s(base, peak)
=====

```

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64,  
Version 2026.0.0 Build 20260331  
Copyright (C) 1985-2026 Intel Corporation. All rights reserved.

## Base Compiler Invocation

C benchmarks:  
icx

C++ benchmarks:  
icpx

Benchmarks using both C and C++:  
icpx icx

## Base Portability Flags

834.vpr\_s: -fno-fast-math

## Base Optimization Flags

C benchmarks:  
-m64 -std=c18 -Wl,-z,muldefs -Wl,-plugin-opt=-inline-threshold=1500  
-xclearwaterforest -O3 -ffp-model=fast -flto -mfpmath=sse  
-funroll-loops -qopt-mem-layout-trans=4 -fno-strict-aliasing -fiopenmp  
-DSPEC\_OPENMP -L/usr/local/jemalloc-5.3.0/lib -ljemalloc

C++ benchmarks:  
-m64 -std=c++17 -Wl,-z,muldefs -Wl,-plugin-opt=-inline-threshold=1500  
-xclearwaterforest -O3 -ffp-model=fast -flto -mfpmath=sse  
-funroll-loops -qopt-mem-layout-trans=4 -pthread -fiopenmp

(Continued on next page)



# SPEC CPU®2026 Integer Speed Result

Copyright 2026 Standard Performance Evaluation Corporation

## Supermicro

SuperServer SYS-112HA-TN  
(X14SBH-AP , Intel Xeon 6990E+)

SPECspeed®2026\_int\_base = 6.00

SPECspeed®2026\_int\_peak = 6.14

**CPU2026 License:** 001176  
**Test Sponsor:** Supermicro  
**Tested by:** Supermicro

**Test Date:** May-2026  
**Hardware Availability:** Jun-2026  
**Software Availability:** Apr-2026

## Base Optimization Flags (Continued)

C++ benchmarks (continued):

```
-DSPEC_OPENMP -L/usr/local/jemalloc-5.3.0/lib -ljemalloc
```

Benchmarks using both C and C++:

```
-m64 -std=c++17 -std=c18 -Wl,-z,muldefs  
-Wl,-plugin-opt=-inline-threshold=1500 -xclearwaterforest -O3  
-ffp-model=fast -flto -mfpmath=sse -funroll-loops  
-qopt-mem-layout-trans=4 -fno-strict-aliasing -fiopenmp -DSPEC_OPENMP  
-pthread -L/usr/local/jemalloc-5.3.0/lib -ljemalloc
```

## Peak Compiler Invocation

C benchmarks:

```
icx
```

C++ benchmarks:

```
icpx
```

Benchmarks using both C and C++:

```
icpx icx
```

## Peak Portability Flags

```
834.vpr_s: -fno-fast-math
```

## Peak Optimization Flags

C benchmarks:

```
854.graph500_s: basepeak = yes
```

C++ benchmarks:

```
807.ntest_s: basepeak = yes
```

```
827.cppcheck_s: basepeak = yes
```

```
853.ns3_s: -m64 -std=c++17 -Wl,-z,muldefs  
-Wl,-plugin-opt=-inline-threshold=1500  
-fprofile-generate(pass 1)
```

(Continued on next page)



# SPEC CPU®2026 Integer Speed Result

Copyright 2026 Standard Performance Evaluation Corporation

## Supermicro

SuperServer SYS-112HA-TN  
(X14SBH-AP , Intel Xeon 6990E+)

SPECspeed®2026\_int\_base = 6.00

SPECspeed®2026\_int\_peak = 6.14

**CPU2026 License:** 001176  
**Test Sponsor:** Supermicro  
**Tested by:** Supermicro

**Test Date:** May-2026  
**Hardware Availability:** Jun-2026  
**Software Availability:** Apr-2026

## Peak Optimization Flags (Continued)

853.ns3\_s (continued):

```
-fprofile-use=default.profddata(pass 2) -xCORE-AVX2(pass 1)
-ffp-model=fast -xclearwaterforest(pass 2) -flto
-qopt-mem-layout-trans=4 -O3 -mfpmath=sse -funroll-loops
-pthread -fiopenmp -DSPEC_OPENMP
-L/usr/local/jemalloc-5.3.0/lib -ljemalloc
```

Benchmarks using both C and C++:

```
801.xz_s: -m64 -std=c++17 -std=c18 -Wl,-z,muldefs
-Wl,-plugin-opt=-inline-threshold=1500
-fprofile-generate(pass 1)
-fprofile-use=default.profddata(pass 2) -xCORE-AVX2(pass 1)
-ffp-model=fast -xclearwaterforest(pass 2) -flto
-qopt-mem-layout-trans=4 -O3 -mfpmath=sse -funroll-loops
-fno-strict-aliasing -fiopenmp -DSPEC_OPENMP -pthread
-L/usr/local/jemalloc-5.3.0/lib -ljemalloc
```

817.flac\_s: Same as 801.xz\_s

```
821.gcc_s: -m64 -std=c++17 -std=c18 -Wl,-z,muldefs
-fprofile-generate(pass 1)
-fprofile-use=default.profddata(pass 2) -xCORE-AVX2(pass 1)
-ffp-model=fast -xclearwaterforest(pass 2) -flto
-qopt-mem-layout-trans=4 -O3 -mfpmath=sse -funroll-loops
-fno-strict-aliasing -fiopenmp -DSPEC_OPENMP -pthread
-L/usr/local/jemalloc-5.3.0/lib -ljemalloc
```

823.llvm\_s: Same as 821.gcc\_s

829.abc\_s: basepeak = yes

834.vpr\_s: basepeak = yes

835.gem5\_s: Same as 801.xz\_s

838.diamond\_s: Same as 801.xz\_s

846.minizinc\_s: Same as 801.xz\_s

The flags files that were used to format this result can be browsed at

<http://www.spec.org/cpu2026/results/flags/Intel-ic2026-official-linux64-v1.1.html>  
<http://www.spec.org/cpu2026/results/flags/Supermicro-Platform-Settings-V1.2-CWF-revC.html>



# SPEC CPU®2026 Integer Speed Result

Copyright 2026 Standard Performance Evaluation Corporation

## Supermicro

SuperServer SYS-112HA-TN  
(X14SBH-AP , Intel Xeon 6990E+)

SPECspeed®2026\_int\_base = 6.00

SPECspeed®2026\_int\_peak = 6.14

**CPU2026 License:** 001176

**Test Sponsor:** Supermicro

**Tested by:** Supermicro

**Test Date:** May-2026

**Hardware Availability:** Jun-2026

**Software Availability:** Apr-2026

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2026/results/flags/Intel-ic2026-official-linux64-v1.1.xml>

<http://www.spec.org/cpu2026/results/flags/Supermicro-Platform-Settings-V1.2-CWF-revC.xml>

SPEC CPU and SPECspeed are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

For questions about this result, please contact the tester. For other inquiries, please contact [info@spec.org](mailto:info@spec.org).

Tested with SPEC CPU®2026 v1.0.1 on 2026-05-15 17:37:12-0400.

Report generated on 2026-06-04 10:14:43 by CPU2026 PDF formatter (unknown).

Originally published on 2026-06-04.